



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,469	06/02/2005	Noriaki Kimura	123650	9360
25944	7590	09/21/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			WYATT, KEVIN S	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/533,469	Applicant(s) KIMURA ET AL.	
	Examiner Kevin Wyatt	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>0405</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. Figure 11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, are rejected under 35 U.S.C. 103(a) as being unpatentable over Burlefinger (U.S. Patent No. 6,492,657 B1) in view of Satoh (U.S. Patent No. 6,671,411 B1).

Regarding claim 1, Burlefinger shows in Figs. 1-3, a two-dimensional weak radiation detector, comprising: a photoelectric conversion part (304, i.e., photocathode) which emits electrons (310, i.e., photoelectrons) by incidence of photons (308); an amplification module (amplification portion of electron

Art Unit: 2878

amplification and collection device (320)) which is placed to face the photoelectric conversion part (304. i.e., photocathode), and is provided with a number of electron amplification parts (26, i.e., secondary emission layer) that amplify the photoelectric conversion part (304. i.e., photocathode); a detection module (combination of depletion region (31) and semiconductor region (22)) which is provided to correspond to each of said electron amplification parts constituting the amplification module, and is provided with a number of electron detection parts on which the electrons from the electron amplification parts (26, i.e., secondary emission layer) are incident. Burlefinger does not disclose an operation control part which operates each of said electron detection parts constituting the detection module based on an orthogonal modulation pattern; and a light incidence position calculation part which obtains positions of said photons incident on said photoelectric conversion part, based on a control signal of the operation control part and an output signal of each of said electron detection parts. Satoh shows in Figs. 1-2 an operation control part (combination of cpu (117) operation unit (116)) which operates each of said electron detection parts constituting the detection module based on an orthogonal modulation pattern; and a light incidence position calculation part (combination of original image data area (101a), orthogonal transform coefficient area (101b) and orthogonal transform unit (102)) which obtains positions of said photons incident on said photoelectric conversion part (304. i.e., photocathode), based on a control signal of the operation control part (combination of cpu (117) operation unit (116)) and an output signal of each of said electron detection parts (the

Art Unit: 2878

positions of the photons are inherently obtained by the orthogonal transformation unit (103) during first time encoding sequence in step s107 in Fig. 2, col. 6, lines 59-65 and col. 7, lines 1-14). It would have been obvious to one skilled in the art to provide the image coding apparatus of Satoh to the device of Burlefinger for the purpose of improving compression of image data prior to file storage.

Regarding claim 4, Burlefinger further discloses that an emission part (front surface of photocathode), which emits photons by incidence of microwaves or corpuscular rays, is provided at a front of said photoelectric conversion part. Burlefinger does not disclose an operation control part which operates each of said electron detection parts constituting the detection module based on an orthogonal modulation pattern; and a light incidence position calculation part which obtains positions of said photons incident on said photoelectric conversion part, based on a control signal of the operation control part and an output signal of each of said electron detection parts.

Regarding claim 2, Burlefinger shows in Figs. 1-3, a two-dimensional weak radiation detector, comprising: a photoelectric conversion part (304. i.e., photocathode) which emits electrons (310, i.e., photoelectrons) by incidence of photons (308); an amplification module (amplification portion of electron amplification and collection device (320)) which is placed to face the photoelectric conversion part (304. i.e., photocathode), and is provided with a number of electron amplification parts (26, i.e., secondary emission layer) that amplify the photoelectric conversion part (304. i.e., photocathode); a detection module (combination of depletion region (31) and semiconductor region (22))

Art Unit: 2878

which is provided to correspond to each of said electron amplification parts constituting the amplification module, and is provided with a number of electron detection parts on which the electrons from the electron amplification parts (26, i.e., secondary emission layer) are incident; and a wavelength calculation part (inherently performed by the signal processing circuitry provided with image pickup unit (100), col. 6, lines 47-51) which obtains energy of said photons based on magnitude of the output signal of each of said electron detection parts, and converts it into a color signal. Burlefinger does not disclose an operation control part which operates each of said electron detection parts constituting the detection module based on an orthogonal modulation pattern; and a light incidence position calculation part which obtains positions of said photons incident on said photoelectric conversion part, based on a control signal of the operation control part and an output signal of each of said electron detection parts. Satoh shows in Figs. 1-2 an operation control part (combination of cpu (117) operation unit (116)) which operates each of said electron detection parts constituting the detection module based on an orthogonal modulation pattern; and a light incidence position calculation part (combination of original image data area (101a), orthogonal transform coefficient area (101b) and orthogonal transform unit (102)) which obtains positions of said photons incident on said photoelectric conversion part (304. i.e., photocathode), based on a control signal of the operation control part (combination of cpu (117) operation unit (116)) and an output signal of each of said electron detection parts (the positions of the photons are inherently obtained by the orthogonal transformation unit (103)

Art Unit: 2878

during first time encoding sequence in step s107 in Fig. 2, col. 6, lines 59-65 and col. 7, lines 1-14). It would have been obvious to one skilled in the art to provide the image coding apparatus of Satoh to the device of Burlefinger for the purpose of improving compression of image data prior to file storage.

Regarding 3, Burlefinger further discloses that said wavelength calculation part obtains the magnitude of the output signal based on output pulse repetition frequency of the output signal of said electron detection part and converts it into said color signal (inherently performed by the signal processing circuitry provided with image pickup unit (100), col. 6, lines 47-51).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Makino (Publication No. 2002/0085261 A1) discloses a scanner apparatus.

Ovalekar (U.S. Patent No. 6,611,494 B1) discloses an orthogonal sequence generator.

Tanaka (U.S. Patent No. 4,797,944) discloses an image signal encoding method by orthogonal transformation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Wyatt whose telephone number is (571)-272-5974. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the

Art Unit: 2878

examiner's supervisor, Georgia Epps can be reached on (571)-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K.W.

K.W.

Georgia Epps
Georgia Epps
Supervisory Patent Examiner
Technology Center 2800